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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/065,541
Filing Date: October 29, 2002
Appellant(s): KURITA ET AL.

Ernest A. Beutler
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 18 May 2005 appealing from the Office action mailed 02 December 2004.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-4 and 6, 9, 11, 23, and 25.

Claims 12 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 5, 7, 8, 10, 13-22 and 24 are withdrawn from consideration as not directed to the elected Species.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

US 5475276	**Shinga et al.**	**12-1995**
US 5942873	**Nakano**	**8-1999**
US 6252626	**Nishikawa et al.**	**6-2001**

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 23 and 25 are rejected under 35 U.S.C. 102(a) as being anticipated by Nishikawa et al. Nishikawa et al., in figure 9, show:

A rotating electrical machine of reduced cogging torque at the time after said machine is powered comprised of cooperating, relatively rotatable permanent magnet and coil winding elements said permanent magnet element being comprised of circumferentially spaced permanent magnets of opposite polarity (see fig. 1), said coil winding element being comprised of circumferentially spaced magnetic pole cores around which electrical coils are wound, said cores having ends in facing relation to said permanent magnets, the relationship between said pole cores facing ends and said permanent magnets being skewed to reduce the cogging torque (note figure 9; and column 1, lines 47-50) of the starter motor at the time after said machine has been powered and power is no longer being applied (inherent), each of said permanent magnets being comprised of axially spaced and circumferentially spaced but circumferentially overlapping segments to effect the skewing (this feature is shown in figure 9). Furthermore, note the last sentence in the abstract describes

the decreased cogging torque which would inherently include both acceleration and deceleration states of operating.

Re claim 25, note that there are two side magnet segments shown in figure 9.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1- 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiga et al., US 5475176 in view of Nakano, US 5942873. Shiga et al. disclose: An electrically operated starter for an internal combustion engine, said starter comprising a DC electrical motor having an output shaft in starting arrangement with a shaft of the engine for starting the engine upon the application of electrical power (inherent); said motor being comprised of cooperating, relatively rotatable permanent magnets and selectively energized coil winding elements (inherent) said permanent magnet element being comprised of circumferentially spaced permanent magnets of opposite polarity,

said coil winding element being comprised of circumferentially spaced magnetic pole cores around which electrical coils are wound, said cores having ends in facing relation to said permanent magnets(note armature 113 facing magnets 112), [said motor having reduced vibration after the discontinuation of application of electrical power to said coil winding elements upon engine starting by at least one or reducing the cogging torque of the starter motor] (the preceding bracketed limitations are not expressly recited) and rigidifying (note column 2, lines 6-9) the outer housing of the starter motor. Shiga et al. do not expressly disclose said motor being comprised of cooperating, relatively rotatable permanent magnets and selectively energized coil winding elements [wherein] said permanent magnet element being comprised of circumferentially spaced permanent magnets of opposite polarity. Nakano discloses skewing circumferentially spaced permanent magnets and selectively energized coil winding elements [wherein] said permanent magnet element being comprised of circumferentially spaced permanent magnets of opposite polarity, as shown in figure 2 and 3, for the purpose of decreasing cogging torque (note column 1, lines 53-62). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the skewed circumferentially spaced permanent magnets and selectively energized coil winding elements [wherein] said permanent magnet element being comprised of circumferentially spaced permanent magnets of opposite polarity in the motor of Shiga et al. One of ordinary skill in the art would have been motivated to do this to reduce the cogging torque of the motor. Furthermore, as set forth above, cogging torque is reduced whenever the

motor is turning, thus the cogging torque and associated vibration is reduced after "discontinuation of application of electric power".

Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shiga et al. in view of Nakano and further in view of Nishikawa et al. The combination of Shiga et al. and Nakano disclose the invention as claimed except for the limitation of the permanent magnets being comprised of "axially spaced and circumferentially spaced but circumferentially overlapping segments". Nishikawa et al. in figure 9 clearly teach arranging permanent magnets axially spaced and circumferentially spaced but circumferentially overlapping segments for the purpose of reducing cogging torque. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include a center segment and two side segments axially spaced and circumferentially spaced but circumferentially overlapping segments in the motor of the combination of Shiga et al. and Nakano by any of reducing manufacturing costs by using a plurality of smaller magnets and further reducing cogging torque by skewing the pole interfaces axially along the axis of rotation.

(10) Response to Argument

Applicant's argument that Nishikawa does not teach the reduction of cogging torque when the power is removed from the machine is not persuasive with respect to claim 1, among others. It is inherent that the structural means for reducing cogging torque of Nishikawa et al. functions in a similar fashion to

applicant's invention, as the same structure inherently performs the same function. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58,60 (Bd. Pat. App. & Inter. 1985).

As to the argument that "external vibrations" are resisted, it is noted that the claims do not mention "external vibrations."

Re the Nakano reference in the 103 rejection, it is noted that the rejection is proper as the motivation to combine is stated in the rejection and is not based on appellant's own teaching.

The response to the argument to claims 3 and 4 is not persuasive as the same structure inherently performs the same function (see response to claim 1), supra.

As to claims 6, calling for the magnets to be magnetized in the direction of the axis of rotation, it is noted that is clearly the case as shown in figure 2 and 3 of Nakano wherein alternating magnets have opposing polarities around the periphery of the rotor, thus magnetized in a direction of the axis of rotation, for the purpose of decreasing cogging torque (note column 1, lines 53-62).

The remarks concerning claims 9 and 11 are not persuasive. The same structure inherently performs the same function (see response to claim 1), supra.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

David Scheuemann

6/7/05

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